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TECHNICAL REPORT

For The

Cargo Movement Operations System (CMOS)

Level of Effort Assessment of ADAM III
(Final)

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Section I

Introduction. The purpose of this assessment is to determine the work necessary to merge the ADAM III functionality into CMOS. This final report is the culmination of the previous version and further study.

Summary. The general strategy for this study was to examine the requirements contained in the Draft Functional Requirements Document and determine their impact in each of six system design element categories. Five steps were needed to complete this study. In order of occurrence, they were: (1) to explain the processes at work in ADAM III, (2) to identify the system design element categories; (3) to visualize the incorporation of ADAM III requirements into CMOS; (4) to record each instance; and (5) to total the counts for each category. Sizing the scope of the CMOS ADAM III merger should be tempered by the presence of mitigating factors. These include: (1) evolutionary requirements definition; Appendix A contains the version of the Draft Functional Requirements Document used, (2) documentation constraints; (3) requirements integration into the conceptual model of CMOS; (4) no measurement of process complexity, significant complexity is unquantified for 28 requirements; (5) inability to allocate all requirements to categories; and (6) lack of interchangeability between CMOS ad hoc queries and ADAM III preformatted queries. *Computer program for Logistics...*

Conclusion. The additional work for merging the ADAM III requirements into CMOS is shown in the table below.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
						<5 5-26 >26
TOTAL	63	145	186	52	60	38 14 2

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Section II

Results.

A. Overview.

Purpose. As stated earlier, the purpose of this assessment is to determine the work necessary to merge ADAM III's functionality into CMOS.

Strategy. The Draft Functional Requirements Document prepared by representatives of the CMOS Program Office and SAIC after trips to HQ MAC Scott AFB, IL (8-12 JAN 90) and the 436 APS Dover AFB, DE (26 FEB to 2 MAR 90) provides the basis for this study. The general strategy for this study was to examine the requirements contained in the Draft Functional Requirements Document and determine their impact in each of six system design element categories.

Description of Approach. The five steps used in this study are as follows:

1. Understand the processes at work in ADAM III and the information available to its users. This was done by observing aerial port operations, talking with port and HQ MAC personnel, and examining the ADAM III User's Manual (draft) and record layouts.
2. Identify six categories of system design elements for use in quantifying the impact of the requirements. The categories are: Menu Options, Full Screens, Hand Held Terminal Screens, Local Reports, Data Transfers and Messages, and Data Fields. A Menu Option is defined as an additional line on an input screen that represents a function available for selection. A Full Screen is an entire screen needed either to facilitate data input or to present a menu of functions. A Hand Held Terminal (HHT) Screen represents the HHT's equivalent to the Full Screen. The category of Local Reports includes preformatted data base queries, managerial reports, and reports that aid day-to-day operations, including forms and movement documents. The Data Transfers and Messages category was established to track the number of different messages or notices that flow port to port, port to HQs', and HQ MAC to external systems. The Data Fields category represents the estimated additional number of data fields necessary to satisfy the requirement.
3. Visualize the incorporation of the ADAM III requirements into CMOS via the six categories.
4. Record each instance where a new design element was needed to satisfy the requirement without repeating the count for the same requirement elements. Generally, additional functions were counted as needing at least one menu option and at least one full input screen. These were adjusted for the amount of data needed or for the format of

particular reporting functions. When an estimate of the equivalent number of HHT screens was needed a ratio of one full screen to six HHT screens was applied. This ratio was derived as follows: A typical full size input screen contains space for 1920 characters (80 X 23 characters). The HHT input screen contains space for 80 characters (4 X 20 characters). Since approximately half of a full-sized input screen is blank and the space devoted to prompts could be reduced by half, the space utilized for a full screen can be estimated at 480 characters. Dividing 480 by 80 (the space available on an HHT screen) provides the ratio of 1:6. Six represents an average that is designed to produce a close estimate of the total number of HHT screens required. Therefore, it may appear high or low as applied to each instance. One preformatted query, managerial report, or operational report resulted in one count for local reports. The relationships between ADAM III and overseas ACA, MATCU, CONUS ACA, MAC HOST/TRAIS/MACA, and DAMMS-R are viewed strictly as data transfers, even though gray areas exist where the overseas ACA and the MATCU use ADAM III data. In these cases, updates and queries are counted as a data transfer. The estimated number of data fields falls into one of three categories - less than five (< 5), five to 26 (5 - 26), and more than 26 (> 26).

5. Total the counts for each category. For the data fields, a count for each range was used instead of a discrete sum of data fields.

Qualifications. A number of mitigating factors affected the results of this study. These factors should be incorporated into the simplified sizing counts to form a more accurate basis for determining the scope of the MAC CMOS merger.

1. Requirements definition. The requirements considered for this study were limited to those identified in the Draft Functional Requirements Document. This document is currently under review by CMOS PMO and HQ MAC TR/SC staffs. Requirements definition is nearing completion. Since this is the final version of the level of effort assessment, we used the known requirements to size the task. A copy of the version used for this study is at Appendix A. Each estimate for a design element is based on the amount of information available about the requirement. Each estimate can be expected to deviate from the future, actual count by some amount. The degree of information available about the requirement will influence the variance between the actual and estimated counts. This is particularly relevant for reports generation and exchange between HQs and ports. There is a high probability that MAC's final determination of reporting requirements will deviate significantly from the estimates, because these reports are currently undefined, pending analysis by HQ MAC.

2. Documentation constraints. The initial strategy for accomplishing this task was replaced with a second, because the needed information was not found in existing documentation. The strategy for this final report is the same as the second, but an updated version of the requirements was used.

a) The initial strategy for this task was to isolate the ADAM III requirements not covered in CMOS, compare these to the CMOS design relationship of system capability > data entity > data fields, and thereby establish the design elements needed to incorporate ADAM III requirements into CMOS. However, this effort revealed shortcomings in the CMOS and ADAM III documentation. For CMOS, CSCI documentation does not map all of the system capabilities to data entities. This prevented the construction of the relationship. At this stage of development, CMOS documentation does not contain the level of detail needed to make comparisons. From the ADAM III perspective, life cycle documentation has not kept pace with system advances. The documentation available may not completely and accurately depict how ADAM III has evolved.

b) The second strategy employed the first draft of the Functional Requirements Document as the basis for defining ADAM III requirements beyond the scope of CMOS.

c) The third strategy employed the Draft Functional Requirements Document as the basis for defining ADAM III requirements beyond the scope of CMOS.

3. Requirements integration. Our analysis does not universally integrate ADAM III requirements into the conceptual design of CMOS. Because of complexity and command dependency, certain aerial port procedures do not lend themselves to integration. Over/short shipment handling and HOST(HQ MAC) - MINIS (port) reporting are two examples. Conversely, aerial ports employ standard transportation practices, with minor variations, and these are treated as a superset of CMOS procedures. The relationship between the MAC unique areas, MAC procedures that are an extension of CMOS, and CMOS is shown in Attachment 1.

4. Lack of complexity measurement. The method of measuring this level of effort by counting micro level design elements, such as screens and interfaces, fails to measure the complexity inherent in the processes behind those elements. Since procedural steps and other complexities could not be measured, the task has been over simplified, and the degree of complexity for 28 requirements is unquantified.

5. Requirement allocation. Not every requirement could be allocated among the categories. For example, CMOS terminals for NAFs, ALDs, and MATCUs are an architectural matter beyond the scope of this task.

6. Ad hoc versus preformatted queries. The CMOS ad hoc query capability cannot be considered a direct substitute for the preformatted queries required by ADAM III. Ad hoc queries generally must be constructed each time they are issued; this makes them inefficient as aids in performing routine, predictable operations. Therefore, some of ADAM III's preformatted query requirements are not viewed as being met by CMOS and have been included in this study.

B. Draft Requirements Definition Document References and Data.

This subsection contains the Draft Functional Requirements Document headings and paragraph numbers as they appear in the attached version. The individual requirements have been broken out to allow the elements to be counted. The tables relate the requirements to the design element categories and provide the counts. An * next to a requirement denotes complexity that could not be quantified.

1.1 System Functions.

1.1.1 Port hold time.

- a. Track and color code (red/yellow/green) cargo status based on port hold time.
- b. Calculate port hold time from actual aircraft or truck arrival time. Port hold time begins with cargo receipt time which is called System Entry Time (SET).
- c. End port hold time at actual aircraft or truck departure time.
- d. End port hold time when inbound cargo is in-checked and identified for outbound surface movement.
- e. Discontinue port hold time accrual while cargo is frustrated.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	< 5
b.	0	0	0	0	0	< 5
c.	0	0	0	0	0	< 5
d.	0	0	0	0	0	< 5
e.	0	0	0	0	0	< 5

1.1.2 Cargo tracking.

- a. Track the status of loose cargo for all airlift cargo using the following status codes:

(1) ADV - Advance (ATCMD submitted but cargo has not arrived.)

- (2) SEN - Sentinel (Cargo was deleted but the record has not been purged from the data base.)
- (3) INC - In-check (Cargo is on-hand but not movement ready.)
- (4) PRO - Processed (Cargo is on-hand, movement ready, and awaiting lift.)
- (5) PLT - Palletized (Cargo is on a pallet, movement ready, and awaiting lift.)
- (6) PLP - Palletized Load Planned (Cargo is on an air load planned pallet.)
- (7) MNL - Manifested Loose (Loose cargo that is air load planned.)
- (8) LFT - Lifted (Loose cargo which has departed.)
- (9) PLL - Palletized Lifted (Palletized cargo which has departed.)
- (10) AIB - Air Inbound (Cargo scheduled to arrive on an inbound mission.)
- (11) ARP - Air Receipted Palletized (Palletized cargo arrived by air but not movement ready.)
- (12) AIR - Air Inbound Receipted (Loose cargo arrived by air but not movement ready.)
- (13) LDP - Load Planned (Loose cargo load planned for surface.)

b. Track the status of containerized cargo (pallets, MILVANS, and other containers) for all airlift cargo using the following status codes:

- (1) Sen - Sentinel
- (2) BIP - Build-In-Progress
- (3) PAR - Partial Pallet
- (4) CAP - Complete Pallet
- (5) LDP - Load planned
- (6) MAN - Manifested
- (7) LFT - Lifted
- (8) AIB - Air-In-Bound
- (9) AIR - AIB-Received
- (10) AIC - AIB-INC
- (11) ABD - AIB-Breakdown

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	< 5
b.	0	0	0	0	0	< 5

1.1.3 Frustrated cargo tracking.

a. Track the status of frustrated loose cargo and containers (pallets, MILVANS, and other containers) for all airlift cargo using the following status codes:

- (1) FRD - Requires diplomatic clearance.
- (2) FR1 - Incomplete or improper documentation, including packing, labeling or marking that cannot be corrected at time of in-check.
- (3) FR2 - Receipt of damaged shipments.
- (4) FR3 - Request from ACAs/MATCOs/MATCUs to hold, divert, or otherwise remove a shipment from the airlift system.
- (5) FR4 - Request from US Customs to hold, divert, or otherwise remove (confiscate) a shipment from the airlift system.
- (6) FR5 - Receipt of suspected pilfered shipments.
- (7) FR6 - Shipments awaiting air clearance either at origin or destination station. (Example: A shipment of class A explosives may be frustrated at the APOE due to limited storage capacity at the APOD.)
- (8) FR7 - Shipments received and in-checked/processed but cannot be located within the terminal complex; i.e., shipments overshipped, incorrect entries into the data base, stolen/lost shipments and items not located during terminal inventories. (These items must have DISCON, DISREP or tracer actions as appropriate initiated.)
- (9) FR8 - Reserved.
- (10) FR9 - Reserved.

- (11) FRE - This frustration code is automatically assigned by the system if documentation errors were found during Air Inbound processing.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	< 5

1.1.4 Edit bay location and mode code.

- a. Change cargo bay locations and MILSTAMP mode codes for cargo and containers in the backlog using a PC workstation or hand-held terminal.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	2	0	0	0	0	0

1.1.5 TCN edit check.

1.1.5.1 Entry error.

- a. Require the operator to verify the TCN when an exact match is not found, but there is a TCN where all the characters are identical except two.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	1	6	0	0	0

1.1.5.2 Add TCN.

- a. Require the operator to add a new TCN when an exact match is not found and the closest TCN has three or more different characters.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	0	0	0	0	0

1.1.5.3 Edit TCN.

- a. Allow the operator to correct a TCN that he perceives was erroneously entered at the origination station.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	0	0	0	0	0

1.1.6 Inventory.

1.1.6.1 Manual inventory.

- a. Produce a hard copy list of cargo on-hand, sorted by bay location.
- b. Resolve discrepancies between the hard copy list and the cargo by entering corrections at the PC workstation.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	1	0	0
b.	1	1	0	0	0	0

1.1.6.2 Hand-held terminal inventory.

- a. Scan or enter by key stroke TCN information for cargo on-hand by bay location.
- b. Compare with prepositioned information and identify discrepancies.
- c. Notify the appropriate work center to move cargo found in the wrong bay location.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	6	0	0	0
*b.	0	0	0	0	0	0
c.	0	0	0	1	0	<5

1.1.6.3 Inventory over/short procedure.

- a. Check and clear overages found during inventory with the short shipment register.
- b. Create TCMD data for overages not reconciled with the short shipment register.
- c. Provide this capability to the ATSA and air freight work centers.
- d. Identify shortages to the system manager for resolution.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
*a.	0	0	0	0	0	0
b.	1	1	6	0	0	0
*c.	0	0	0	0	0	0
d.	1	1	0	1	0	<5

1.1.6.4 Inventory timing and documentation.

- a. Prompt the operator to perform the inventory based on a user defined time criterion.
- b. Document the date, time and results for each inventory performed.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	1	0	0	0	< 5
b.	0	0	0	0	0	< 5

1.1.7 Forms production.

- a. Produce bar-coded Military Shipping Labels and Pallet Identifiers, and Special Handling Data/Certification.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	0

1.1.8 Consignee information.

- a. Validate shipper authenticity.
- b. Determine probable bay location and onward movement mode.
- c. Reoriginate intransit cargo.
- d. Allow the system manager and ATSA to maintain and update consignee information.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	0
b.	0	0	0	0	0	0
c.	0	0	0	0	0	0
d.	0	0	0	0	0	0

1.1.9 Workload reporting.

- a. Capture and report aerial port workload data to complete blocks II, III, B, C, D, E, IV, and V of the RCS:MAC-TRX(M&Q)7107 report.
- b. Generate automatically monthly, quarterly, at user defined intervals, or as an option of the Reports Processing Menu.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	>26
b.	0	0	0	0	0	< 5

1.2 External Interfaces.

1.2.1 CMOS to MAC HOST cargo status update.

- a. Transmit electronically the transaction records listed below over the CMOS to HQ MAC HOST interface:

- (1) - 420 Additions to the TCMD record
- (2) - 430 Changes to the TCMD record
- (3) - 440 Deletions to the TCMD record
- (4) - 425 Additions to the pallet header
- (5) - 435 Changes to the pallet header
- (6) - 445 Deletions to the pallet header

- b. Create and send these transactions at the time of each addition, change, or deletion to the TCMD record and or pallet header.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	3	0	0	6	5-26
*b.	0	0	0	0	0	0

1.2.2 CMOS to MAC HOST; database validation.

a. Transmit to the MAC HOST detailed data on all TCNs, TCMDs, and pallets on hand. Format and times to be specified by HQ MAC at a later date.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	1	< 5

1.2.3 MAC MACA to CMOS; ATCMD.

a. Accept ATCMD data from the MAC MACA.

b. Accept an ATCMD cancellation notice from MACA, change the status of the ATCMD record to "cancel", and purge the ATCMD from the data base.

c. Delete ATCMDs if cargo is not received within 30 days.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	1	0
b.	0	0	0	0	1	0
*c.	0	0	0	0	0	0

1.2.4 CMOS to MAC HOST; intermittent reports.

a. Prepare automatically and electronically transmit reports to the HOST. Format and times to be specified by HQ MAC at a later date.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	1	< 5

1.2.5 CMOS to MAC MACA; no ATCMD on file.

- a. Notify MAC MACA for each piece of cargo arriving at the port with no ATCMD on file. Accept response of ATCMD data as available.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	2	< 5

1.2.6 ADAM III (DPS-6) to CMOS; initialization.

- a. Transfer ADAM III data to the CMOS data base at implementation.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	1	< 5

1.3 NAF/ALD.

1.3.1 NAF/ALD terminals.

- a. Provide CMOS terminals for each MAC NAF and ALD. These terminals will be connected to the CMOS CPU at the location. MAC NAFs are located at McGuire AFB and Travis AFB. MAC ALDs are located at Ramstein AB and Hickam AFB.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
*a.	0	0	0	0	0	0

1.3.2 NAF/ALD data.

- a. Provide the same read only capabilities found in the APCC function.

- (1) Display current tonnage of pallets on-hand and movement ready for each APOD selected.
- (2) Display current tonnage of pallets and loose cargo on-hand and movement ready for each APOD selected.
- (3) Display current tonnage of unprocessed cargo on-hand for each APOD selected.
- (4) Display cargo on-hand by each APOD within a specified area. These areas are displayed by Management Action Indicators (MAI) descriptions.
- (5) Provide a capability to call up reports (TRAIS like) for subordinate ports.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	23	0	0	22	0

1.3.3 NAF/ALD reports.

1.3.3.1 Regular reports.

a. Aggregate port provided information into NAF/ALD defined summary reports. Format and times to be specified by HQ MAC at a later date.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	1	< 5

1.3.3.2 Intermittent reports.

a. Aggregate port provided information into NAF/ALD defined summary reports. Format and times to be specified by HQ MAC at a later date.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	1	< 5

1.4 Air Terminal Support Activity (ATSA).

1.4.1 ATSA terminals.

a. Provide CMOS terminals for each ATSA collocated with a MAC aerial port. These terminals will be connected to the CMOS CPU at the location.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
*a.	0	0	0	0	0	0

1.4.2 Cargo visibility.

a. Provide read only visibility of all cargo in the aerial port and outbound surface freight.

b. Provide read only visibility of advanced manifest data for inbound air shipments and advanced movement data for intransit cargo on inbound surface shipments.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	0
b.	1	3	0	0	0	0

1.4.3 Edit TCMD.

a. Review, add, change, and delete ATCMD prime and trailer data for cargo inbound to the aerial port.

b. Modify "approved" ATCMDs received from HQ MAC MACA (CONUS) or from CMOS or DAMMS-R (overseas).

c. Build ATCMDs for cargo that arrives at the port with no ATCMD on file using updates from MACA or TCMD information on the inbound shipping document.

d. Do not allow creation of an ATCMD with a non-significant TAC.

e. Change the status of the ATCMD record to "cancel," and purge the ATCMD from the data base.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	0
b.	1	1	0	0	0	0
c.	1	2	12	0	0	0
d.	0	1	0	0	0	0
e.	1	1	0	0	0	0

1.4.4 Change movement priority/mode.

a. Initiate action to upgrade movement priority (greensheet), downgrade movement priority, or change modes for cargo on-hand.

b. Accept changes to the TCMD record from aerial port personnel.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	0
*b.	0	0	0	0	0	0

1.4.5 Edit consignee DODAAC.

a. Modify the consignee DODAACs associated with Navy vessels.

b. Adjust POD data for all TCMDs with the modified DODAAC.

c. Notify air freight to change the bay location of cargo in the aerial port.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	0
b.	1	1	0	0	0	0
c.	0	0	0	1	0	0

1.4.6 Onward movement by organic air.

- a. Identify outbound surface cargo and inbound air cargo for onward movement by organic air.
- b. Modify the mode code and notify surface freight electronically to move the cargo to a new bay location for cargo scheduled to move by outbound surface.
- c. Modify the bay location for cargo scheduled to arrive by air.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	0
b.	1	1	0	1	0	0
c.	1	0	0	0	0	0

1.4.7 Validate ATCMD (overseas ATSAs).

- a. Validate ATCMD data received from shippers (CMOS and DAMMS-R) and immediately transmit this information to the aerial port.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	1	0

1.5 Inbound Surface.

1.5.1 Truck arrival time.

- a. Enter truck arrival time through the HHT or PC.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	6	0	0	< 5

1.5.2 Verify air clearance.

- a. Receive and store ATCMD data.
- b. Verify ATCMD data has been received for a shipment. This capability will be available to both the PC workstation and hand-held terminal operators, and support incheck with or without prepositioned data.
- c. Require ATCMDs for all shipments except mail, MAC MICAP, VVIP, FSS, and SAAM cargo, armed forces courier material, and code J baggage.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	1	< 5
b.	1	2	12	0	0	< 5
*c.	0	0	0	0	0	0

1.5.2.1 No ATCMD on file.

- a. Advise the in-checker automatically, through the HHT or PC, if no ATCMD is on file.
- b. Build a prime TCMD for the item with a non-significant TAC.
- c. Pass the data electronically to the ATSA for completion.
- d. Change the shipment status to "INC" automatically and store the cargo in the ATSA bay location until the TCMD data is completed.
- e. Change the shipment status to "PRO" automatically when the ATSA completes the TCMD.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	6	0	0	0
b.	1	2	12	0	0	0
c.	0	0	0	0	1	0
*d.	0	0	0	0	0	0
e.	0	0	0	0	1	0

1.5.2.2 Notify MACA.

- a. Notify the MAC MACA electronically that no ATCMD data is on hand.
- b. Accept a response ATCMD from the MAC MACA if it is available.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	1	0
b.	0	0	0	0	1	0

1.5.2.3 Non-significant TAC.

- a. Pass ATCMD data to the ATSA for validation and assignment of a proper TAC if an ATCMD is on file but has a non-significant TAC.
- b. Change the cargo status to "INC" automatically until the ATSA corrects the TAC.
- c. Change the cargo status to "PRO" automatically when the ATSA corrects the TAC.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	0
b.	0	0	0	0	0	0
c.	0	0	0	0	0	0

1.5.2.4 Visibility to load planner.

- a. Restrict the load planner's visibility over cargo in the "INC" status.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
*a.	0	0	0	0	0	0

1.5.3 In-check information.

1.5.3.1 Validate shipper authenticity.

- a. Determine if the consignee DODAAC for each arriving shipment is valid, using advanced shipment information.
- b. Notify the system manager of discrepancies. The system manager will update the CMOS consignee information.
- c. Frustrate shipments (status code "FRE") and notify the ATSA to either modify the shipment consignee DODAAC or update the CMOS consignee information if a shipment is found without a valid consignee DODAAC during incheck by either a PC workstation or HHT.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	6	0	0	0
b.	1	1	0	0	1	0
c.	0	0	0	0	1	0

1.5.3.2 Probable bay location.

- a. Display a probable bay location for each item inchecked during incheck by either a PC workstation or HHT.
- b. Maintain a separate bay location for general, MICAP, 999, personal baggage, household goods, and special handling shipments.
- c. Permit the in-checker to accept or override the probable bay location.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	1	6	0	0	0
b.	0	0	0	0	0	<5
c.	1	1	6	0	0	0

1.5.3.3 Probable onward movement mode.

- a. Display a probable onward movement mode for the shipment by either a PC workstation or HHT.
- b. Support all mode codes in DOD 4500.32R.
- c. Accept or override the probable mode code.
- d. Update the TCMD information for the shipment automatically.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	1	6	0	0	0
b.	0	0	0	0	0	<5
c.	1	1	6	0	0	0
*d.	0	0	0	0	0	0

1.5.3.4 Reoriginate cargo.

- a. Reoriginate intransit cargo in the surface or air freight terminal based on the onward movement mode code.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	0

1.5.4 Cargo release procedures.

- a. Release material to the consignee during in-check using either the HHT or PC workstation.
- b. Record the name and organization of the recipient for each piece released.
- c. Identify cargo that requires the signature of the recipient and produce a list with a signature block.

d. Update all cargo records with the recipient's name & organization, and a note that a signed transfer document is on file.

e. Archive the released cargo record after elapsed time frame specified by HQ MAC.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	2	12	0	0	0
b.	0	0	0	0	0	<5
c.	0	0	0	1	0	<5
d.	0	0	0	0	0	<5
e.	0	0	0	0	0	<5

1.6 Inbound Air.

1.6.1 Aircraft arrival time.

a. Enter aircraft arrival time through the HHT or PC.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	6	0	0	0

1.6.2 Manifest in-check procedures.

a. Provide the capability to in-check a manifest by line item, pallet, or by accepting all loose cargo or an entire manifest.

b. Frustrate cargo automatically (with status code "FRE") when in-check is done and an item is found with no DODAAC/APOD in the consignee file.

c. Notify the system manager or ATSA that a record for the DODAAC/APOD needs to be established in the consignee file.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	<5
*b.	0	0	0	0	0	0
c.	0	0	0	1	1	0

1.6.3 In-check information.

1.6.3.1 alidate shipper authenticity.

- a. Determine if the consignee DODAAC for each arriving shipment is valid, using advanced manifest information.
- b. Notify the system manager of discrepancies. The system manager will update the CMOS consignee information.
- c. Frustrate shipments (status code "FRE") and notify the ATSA to either modify the shipment consignee DODAAC or update the CMOS consignee information if a shipment is found without a valid consignee DODAAC during in-check by either a PC workstation or HHT.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	6	0	0	0
b.	0	0	0	0	0	0
c.	0	0	0	0	0	0

1.6.3.2 Probable bay location.

- a. Display a probable bay location for each item in-checked by either a PC workstation or HHT.
- b. Maintain a separate bay location for general, MICAP, 999, personal baggage, household goods, and special handling shipments.

c. Permit the in-checker to accept or override the probable bay location.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	1	6	0	0	0
b.	0	0	0	0	0	0
c.	1	1	6	0	0	0

1.6.3.3 Probable onward movement mode.

a. Display a probable onward movement mode for the shipment during in-check by either a PC workstation or HHT.

b. Support all mode codes in DOD 4500.32R.

c. Accept or override the probable mode code.

d. Update the TCMD information for the shipment automatically.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	1	6	0	0	0
b.	0	0	0	0	0	0
c.	1	1	6	0	0	0
d.	0	0	0	0	0	0

1.6.3.4 Reoriginate cargo.

a. Reoriginate intransit cargo in the surface or air freight terminal based on the onward movement mode code.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
*a.	0	0	0	0	0	0

1.6.4 Cargo release procedures.

- a. Release material to the consignee during in-check using either the HHT or PC workstation.
- b. Record the name and organization of the recipient for each piece released.
- c. Identify cargo that requires the signature of the recipient and produce a list with a signature block.
- d. Update all cargo records with the recipient's name and organization, and a note that a signed transfer document is on file.
- e. Archive the released cargo record after elapsed time frame specified by HQ MAC.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	2	12	0	0	0
b.	0	0	0	0	0	0
c.	0	0	0	1	0	0
d.	0	0	0	0	0	0
e.	0	0	0	0	0	0

1.6.5 MAC host update for outbound surface.

- a. Prepare automatically and transmit electronically a lifted manifest transaction to the HQ MAC HOST when the aerial port releases the cargo for onward surface movement.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	1	0

1.6.6 Over/short shipments.

- a. Manage over/short shipments for MILSTAMP mode code "F" cargo.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	5-26

1.6.6.1 Over shipments received at intended destination.

1.6.6.1.1 Over shipment on-hand.

- a. Check an over shipment against the over/short register at the receiving station to see if the shipment was identified earlier as a short shipment.
- b. Add the shipment to the over shipment register if not previously identified.
- c. Notify the system manager of the over shipment, the identity of the origin station, and the identities of enroute stations.
- d. Provide the system manager with the capability to select stations that could have been responsible for the overage.
- e. Generate an over shipment message to each of these stations.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
*a.	0	0	0	0	0	0
*b.	0	0	0	0	0	0
c.	0	0	0	1	0	0
d.	1	1	0	0	0	0
e.	0	0	0	0	1	5-26

1.6.6.1.2 Over shipment message response.

- a. Accept notification of an over shipment and automatically determine if the shipment was handled.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	1	5-26

1.6.6.1.2.1 Over shipment not handled.

- a. Advise electronically the requesting CMOS that the shipment was not handled if no record exists.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	1	5-26

1.6.6.1.2.2 Over shipment handled; onward movement unrecorded.

- a. Generate automatically a "dummy" manifest using the manifest number from the over shipment message and the next available manifest number, if a record exists with no outbound mission data.
- b. Send the "dummy" manifest to the MAC HOST and the destination station automatically by electronic means.
- c. Clear the item from the over/short shipment register at the destination.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	1	0	<5
b.	0	0	0	0	2	0
*c.	0	0	0	0	0	0

1.6.6.1.2.3 Over shipment handled; onward movement recorded.

- a. Send automatically a message containing outbound mission information to the CMOS generating the over shipment message if a record exists with outbound mission data.
- b. Flag the over shipment pending arrival of the mission at the CMOS generating the over shipment message.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	1	0
*b.	0	0	0	0	0	0

1.6.6.2 Over shipments received at other than the intended destination.

1.6.6.2.1 Over shipment on-hand.

- a. Check an over shipment against the over/short register to see if the shipment was identified earlier as a short shipment.
- b. Add the shipment to the over shipment register if previously identified as a short shipment.
- c. Notify the system manager of the over shipment, the identity of the origin station, and the identities of enroute stations.
- d. Provide the system manager with the capability to select stations that could have been responsible for the overage.
- e. Generate an over shipment message to each of these stations.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	0
b.	0	0	0	0	0	0
c.	0	0	0	0	0	0
d.	0	0	0	0	0	0
e.	0	0	0	0	0	0

1.6.6.2.2 Over shipment message response.

- a. Accept notification of an over shipment and automatically determine if the shipment was handled.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	0

1.6.6.2.2.1 Over shipment not handled.

- a. Advise electronically the requesting CMOS that the shipment was not handled if no record exists.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	0

1.6.6.2.2.2 Over shipment handled; onward movement unrecorded.

- a. Generate automatically a "dummy" manifest using the manifest number from the over shipment message and the next available manifest number, if a record exists with no outbound mission data.
- b. Send the "dummy" manifest to the MAC HOST and the destination station automatically by electronic means.
- c. Clear the item from the over/short shipment register at the destination.

d. Reoriginate the shipment for onward movement.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	0
b.	0	0	0	0	0	0
c.	0	0	0	0	0	0
*d.	0	0	0	0	0	0

1.6.6.2.2.3 Over shipment handled; onward movement recorded.

a. Send automatically a message containing outbound mission information to the CMOS generating the over shipment message if a record exists with outbound mission data.

b. Modify the TAC for the over shipped item ("S" in the second position) and reoriginate the shipment to its intended destination.

c. Return the TAC to its original composition upon arrival at the intended destination.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	0
*b.	0	0	0	0	0	0
*c.	0	0	0	0	0	0

1.6.6.3 Short shipments.

1.6.6.3.1. Short shipment record on-hand without cargo.

a. Check a short shipment against the over/short register at the intended destination to see if the shipment was identified earlier as an over shipment.

b. Add the shipment to the short shipment register if not previously identified.

- c. Notify the system manager of the short shipment, the identity of the origin station, and identities of enroute stations.
- d. Provide the system manager with the capability to select stations that could have been responsible for the shortage.
- e. Generate a short shipment message to each of these stations.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
*a.	0	0	0	0	0	0
*b.	0	0	0	0	0	0
c.	0	0	0	1	0	0
d.	1	1	0	0	0	0
e.	0	0	0	0	1	5-26

1.6.6.3.2 Short shipment message response.

- a. Accept notification of a short shipment and automatically determine if the shipment was handled.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	1	5-26

1.6.6.3.2.1 Short shipment not handled.

- a. Advise electronically the requesting CMOS that the shipment was not handled if no record exists.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	1	5-26

1.6.6.3.2.2 Short shipment located; on-hand.

- a. Reoriginate the shipment and modify the TAC ("S" in the second position) for the item.
- b. Notify electronically the CMOS generating the short shipment message that the cargo is on-hand.
- c. Flag the short shipment record pending receipt of the cargo at the CMOS generating the short shipment message.
- d. Return the TAC to its original composition upon arrival of the cargo at the intended destination.
- e. Transmit automatically a follow-up message to the station that reported the cargo on-hand for shipments not received within 72 hours of being flagged.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
*a.	0	0	0	0	0	0
b.	0	0	0	0	1	5-26
*c.	0	0	0	0	0	0
*d.	0	0	0	0	0	0
e.	0	0	0	1	1	5-26

1.6.6.3.2.3 Short shipment handled; onward movement recorded.

- a. Send a message with mission information to the CMOS generating the short shipment message if the cargo has been shipped.
- b. Flag the short shipment record pending arrival of the mission.
- c. Transmit automatically a follow-up message to the station that reported the cargo on-hand if the cargo is not received within manifest ETA plus 24 hours.
- d. Retransmit a short shipment message to the station which reported the mission information if an abort manifest transaction is received

for the mission on which the previously shorted piece was scheduled to arrive.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	1	5-26
b.	0	0	0	0	0	0
c.	0	0	0	0	0	0
d.	0	0	0	1	1	5-26

1.6.6.3.3 Unresolved short shipments.

- a. Notify the system manager to manually prepare an SF361 if the short shipment is not resolved in 21 days.
- b. Provide a history of system messages (outbound and inbound) associated with locating the short shipment.
- c. Do not remove items from the short shipment register unless the short shipment has been resolved or SF361 data is entered.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	1	0	0
b.	1	1	0	1	0	<5
c.	0	1	0	0	0	0

1.6.6.4 System manager review.

- a. Display the over/short shipment register, the status of items in the register, and the inbound over/short messages received with associated responses for system manager review.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	2	0	0	0	0

1.7 Special Handling.

a. Segregate the processing of cargo having selected air commodity, special handling codes, and MAC MICAP.

b. Perform all the functions of inbound air and surface freight; and the in-check, palletization/containerization, inventory, and TCMD modification capabilities of outbound air and surface freight.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	<5
b.	1	5	30	0	0	0

1.8 Outbound Air.

1.8.1 Probable onward movement mode.

a. Display the probable onward movement mode on the shipment planning input screen for mode selection during cargo origination.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	1	0	0	0	0

1.8.2 Identify palletization requirements.

a. Identify cargo requiring palletization by air freight to the load planner.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	<5

1.8.3 Pallet buildup.

- a. Create a pallet header shell.
- b. Add items to the pallet.
- c. Cap the pallet. .
- d. Sum the weights of the items on the pallet plus the standard pallet and strap weights; enter this sum as the pallet weight on the movement document.
- e. Prevent record changes to capped pallets.
- f. Accept grid location for the capped pallet from the operator.
- g. Display a warning when incompatible hazardous cargo either palletized or loose, is being load planned.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	0
b.	0	1	0	0	0	0
*c.	0	0	0	0	0	0
d.	0	0	0	0	0	<5
e.	0	1	0	0	0	0
f.	1	1	0	0	0	0
g.	0	1	0	0	0	<5

1.8.3 Pallet weight verification.

- a. Accept the actual weight of a capped pallet from the operator and compare it to the pallet weight on the movement document.
- b. Test the difference against the ranges found in MACR 76-1.
- c. Change pallet status automatically to "INC" (not movement ready), if the maximum allowable difference is exceeded.

d. Notify the PC operator, and display pallet contents for review.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	0
b.	0	0	0	0	0	<5
*c.	0	0	0	0	0	0
d.	0	2	0	0	0	0

1.8.4 Load planning schematic.

a. Produce a Load Pull Sheet and Load/Sequence Breakdown Worksheet or load planning schematic.

b. Pass the schematic to air freight personnel.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	2	0	5-26
b.	0	0	0	0	0	0

1.8.5 Management Action Indicator (MAI).

a. Establish and maintain MAIs.

b. Display cargo backlogs and load planning lists using MAIs.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	5-26
b.	1	3	0	0	0	0

1.8.6 Multiple manifests.

- a. Allow preparation of multiple air manifests for the same mission.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	0

1.9 Outbound Surface.

1.9.1 Probable onward movement mode.

- a. Display the probable onward movement mode on the shipment planning input screen for mode selection during cargo origination.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	1	0	0	0	0

1.9.2 Bay location changes for onward movement by organic military air.

- a. Allow the ATSA to change the onward movement mode from surface to organic military air.
- b. Notify the outbound surface freight operator electronically to move the cargo to a new bay location.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	0	0	0	0	0	0
b.	0	0	0	1	0	0

1.9.3 Multiple military truck destinations.

a. Manifest trucks to multiple destinations; assign a manifest reference number for each destination.

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.	1	1	0	0	0	<5

1.10 Miscellaneous Reports. HQ MAC will identify preformatted reports and standard queries that shall be required. At a minimum, the reports listed below are expected to be required.

a. Produce the reports and queries described in the ADAM III Port Management Function. This function is divided into three categories: TRAIS reports, local reports (on-demand and time-generated), and data base queries. TRAIS reports represent a daily snapshot of the HQ MAC data base, and they can be requested by the ports.

(1) Local reports. There are 17 local management reports available and 7 of these will be approximated in CMOS.

- (a) Local report 4 - Pallet Grid Inventory Report
- (d) Local report 9 - Cargo by Commodity/Special Handling Code
- (e) Local report 10 - Oversized/Outsized Cargo List
- (f) Local report 11 - Excessive PHT and/or SET
- (g) Local report 12 - On-hand Data by Project Code or TAC
- (h) Local report 13 - Summary Data by Project Code or TAC
- (i) Local report 14 - Unchanged Cargo Status
- (k) Local report 16 - Surface Cargo in Loose Locations in Consignee Sequence
- (l) Local report 17 - ACA Report
- (m) Local report 18 - Pallet Listing Report

(2). Database queries. There are 10 query reports available and four will be approximated in CMOS.

- (a) Query request 2 - Cargo by APOD and status
- (b) Query request 3 - Cargo by APOD and priority

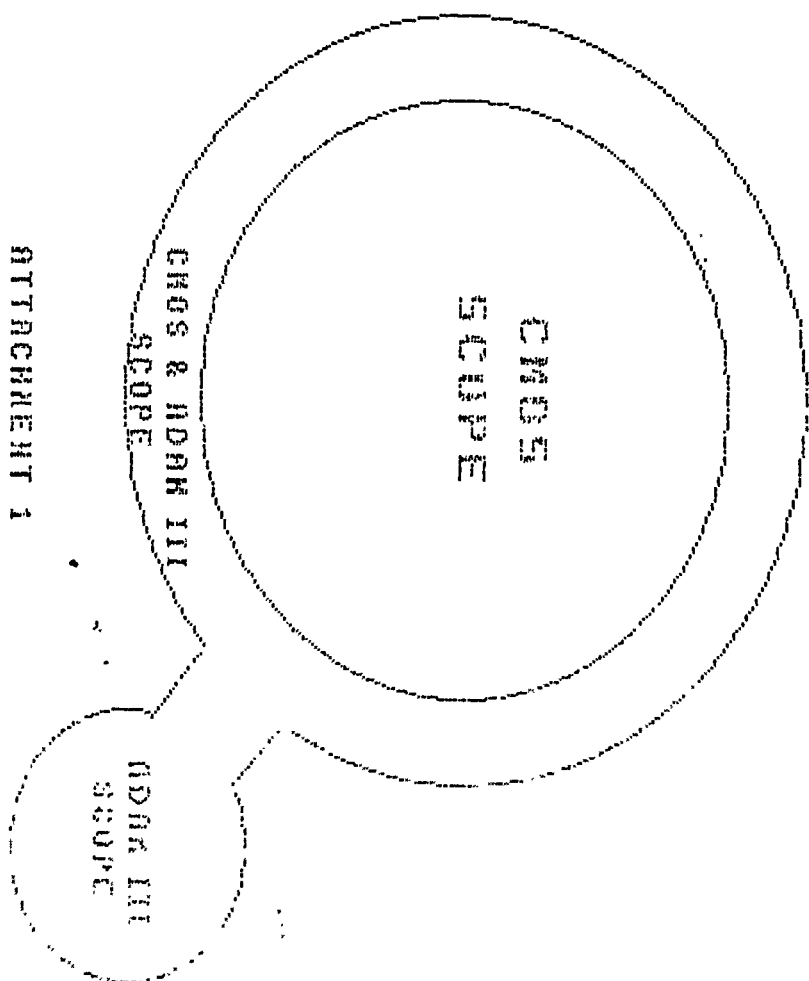
- (c) Query request 4 - Cargo by APOD, status, and priority
- (d) Query request 5 - Cargo by status and priority
- (e) Query request 6 - Cargo by status and onward mode
- (f) Query request 9 - Cargo by pallet contents in the port

(3) TRAIS Reports. There are 18 TRAIS reports and none are available in CMOS.

- (a) Unprocessed port profile on-hand
- (b) Processing port profile on-hand
- (c) Movement ready pallets on-hand
- (d) Manifest header summary
- (e) Daily workload
- (f) Cumulative port hold/processing times
- (g) 24 hour/cumulative movement for pallets
- (h) Air outbound movement report
- (i) On-hand cargo report
- (j) Inventory of 999 old age cargo
- (k) Mission recap
- (l) Super priority cargo/mail port total
- (m) Deleted records
- (n) Detail movement report
- (o) TP4 on-hand by channel
- (p) TP4 movement by channel
- (q) TP4 on-hand by category
- (r) TP4 movement by category

	MENU OPTIONS	FULL SCREENS	HHT SCREENS	LOCAL REPORTS	DATA TRANSFERS MESSAGES	DATA FIELDS
a.						
1.	1	11	0	10	0	> 26
2.	1	7	0	6	0	< 5
3.	1	19	0	18	0	

CHOS & ADDM III REQUIREMENTS RELATIONSHIP



ATTACHMENT 1

Appendix A
Draft Functional Requirements Document

1.0 REQUIREMENTS: The capabilities described below shall be added to the CMOS software developed for Increments I and II. Unless specifically identified as applying only at an aerial port, the capabilities shall be available to all CMOS users.

1.1 System Functions.

1.1.1 Port hold time. At aerial port locations, CMOS shall track and color code (red/yellow/green) air freight cargo status based on port hold time. Port hold time begins with the actual arrival time for the aircraft or truck and ends with actual time of aircraft departure or when inbound cargo is inchecked and identified for outbound surface movement. Port hold time is not accrued for cargo while it is frustrated.

1.1.2 Cargo tracking. CMOS shall track the status of loose cargo and containers (pallets, MILVANS, other containerized shipments) for all airlift cargo using the status codes contained in attachment 1.

1.1.3 Frustrated cargo tracking. CMOS shall track the status of loose cargo and containers using the codes in attachment 2.

1.1.4 Edit bay location and mode code. CMOS shall provide the capability to change cargo bay locations and MILSTAMP mode codes for cargo and containers in the backlog using a PC workstation or hand-held terminal.

1.1.5 TCN edit check. During incheck or inventory, CMOS shall conduct edit checks for TCNs keyed into the PC workstation or hand-held terminal. The edit checks shall provide information that will enable the operator to isolate three possible causes for any discrepancies.

1.1.5.1 Entry Error. CMOS shall advise if there are no matching TCNs on-hand but all the characters are identical to another TCN(s) except two. CMOS shall require the operator to verify the TCN. (common entry errors are 0 for O, L for 1, S for 5, and D for O).

1.1.5.2 Add TCN. CMOS shall advise if there are no matching TCNs on-hand and more than 2 characters are different. CMOS shall require the operator to enter the TCN.

1.1.5.3 Edit TCN. If the operator determines that the TCN was entered in error at the originator station, the operator will be able to correct the TCN.

1.1.6 Inventory. CMOS shall provide the capability to inventory cargo using two methods. For both methods, cargo shall be sorted and inventory accomplished by bay location.

1.1.6.1 Manual inventory. In the first method, CMOS shall produce a hard copy list of on-hand cargo sorted by bay location. This list will be compared with actual cargo in the terminal and discrepancies will be keyed into the PC workstation.

1.1.6.2 Hand-held terminal inventory. In the second method, hand-held terminals shall record actual cargo in the terminal by bay location, compare it with cargo on-hand, and identify the discrepancies. If cargo is found in the wrong bay location, CMOS shall notify the appropriate work center to move the cargo.

1.1.6.3 Inventory over/short procedures. Overages identified during inventory shall be checked against the short shipment register and, if found, shall clear that entry from the register. If not found, the ATSA at aerial ports or the work center conducting the inventory at non-aerial ports shall be notified and provided the capability to create TCMD data for the shipment. Shortages shall be identified to the system manager for resolution.

1.1.6.4 Inventory timing and documentation. The system shall prompt the operator to perform the inventory based on a user defined time criteria. CMOS shall document the date, time, and results for each inventory performed.

1.1.7 Forms production. CMOS shall provide the capability to produce bar-coded Military Shipping Labels and Pallet Placards, and Special Handling Data/Certification.

1.1.8 Consignee information. CMOS shall provide the capability to support validation of shipper authenticity, determination of probable bay location and mode for onward movement, and reorigination of intransit cargo. This capability shall be maintained and updated by the system manager and, in special cases, updated by the Air Terminal Support Activity (ATSA).

1.1.9 Workload reporting. At aerial port locations, CMOS shall not report T-WRAPS workload data for inbound/outbound air freight. Instead, CMOS shall capture and report aerial

port workload data necessary to complete blocks II, III B,C,D,E, IV, and V of the RCS:MAC-TRX(M&Q)7107 report. The aerial port workload data shall be provided in monthly and/or quarterly reports. It shall be generated automatically at user defined intervals or as an option of the Reports Processing Menu.

1.2 External Interfaces.

1.2.1 CMOS to MAC Host; cargo status update. As airlift cargo is received and processed, CMOS shall electronically transmit all the 400 series transactions required to update the status of TCMDs and/or pallets to the HQ MAC Host. The 400 series transactions are defined in attachment 3.

1.2.2 CMOS to MAC Host; database validation. At times specified by HQ MAC, CMOS shall electronically transmit detailed data on all TCNs, TCMDs, and pallets in the port to the HQ MAC Host. This data will be used to validate/update the HQ MAC Host.

1.2.3 MAC MACA to CMOS; ATCMD. At CONUS aerial ports, CMOS shall accept ATCMD data from the HQ MAC MACA. These records shall be maintained for 30 days. If the cargo has not been received by that time, they shall be deleted.

1.2.4 CMOS to MAC Host; intermittent reports. Upon request from HQ MAC Host, the aerial port CMOS shall automatically prepare and electronically transmit reports to the Host.

1.2.5 CMOS to MAC MACA; no ATCMD on file. At CONUS aerial ports, CMOS shall electronically notify MAC MACA for each piece of cargo arriving at the port with no ATCMD data on file. MAC MACA will respond back to the reporting CMOS if ATCMD data is available.

1.2.6 MAC Host to CMOS; initialization.

1.3 NAF/ALD. The capabilities described in this section shall be added to the LRC capability described in CMOS Increment II specification.

1.3.1 NAF/ALD terminals. CMOS terminals will be provided for each MAC NAF and ALD. These terminals will be connected to the CMOS CPU at the location. MAC NAFs are located at McGuire AFB and Travis AFB. MAC ALDs are located at Ramstein AB, GE, and Hickam AFB.

1.3.2 NAF/ALD data. The NAF/ALD shall receive data from their subordinate aerial ports. It shall be able to display and print the data using system and user defined parameters.

1.3.3 NAF/ALD reports. The NAF/ALD shall have the capability to electronically request reports (to be defined by HQ MAC) from subordinate aerial ports.

1.3.3.1 Regular reports. At times specified by HQ MAC, the aerial port shall automatically produce and electronically transmit reports to designated Numbered Air Force (NAF)/Air Lift Division (ALD).

1.3.3.2 Intermittent reports. Upon requests from CMOS NAF or ALD PC workstations, the aerial port CMOS shall automatically prepare and electronically transmit reports to the requestor.

1.4 Air Terminal Support Activity (ATSA). The term ATSA is being used to describe CMOS functional support requirements for the activities of the overseas Airlift Clearance Authorities (ACA) and the CONUS Military Air Traffic Coordinating Unit (MATCU). The capabilities described in this section shall be added to the Overseas ACA function described in the CMOS Increment I specification.

1.4.1 ATSA terminals. CMOS terminals will be provided for each ATSA collocated with a MAC aerial port. These terminals will be connected to the CMOS CPU at the location.

1.4.2 Cargo visibility. The ATSA shall have read only visibility of all cargo in the aerial port and outbound surface freight. In addition, it shall have read only visibility of advanced manifest data for inbound air shipments and advanced movement data for intransit cargo on inbound surface shipments.

1.4.3 Edit TCMD. The ATSA shall have the capability to review, add, change, and delete ATCMD prime and trailer data for cargo inbound to the aerial port. This shall include the capability to modify "approved" ATCMDs received from HQ MAC MACA (CONUS) or from CMOS and DAMMS-R (overseas), or to build ATCMDs for cargo that arrives at the port with no ATCMD on file. The capability to build ATCMDs shall allow the ATSA to receive updates from HQ MAC MACA or use TCMD information that was on the inbound shipping document. The ATSA shall not be able to create an ATCMD with a non-significant TAC code.

1.4.4 Change movement priority/mode. The ATSA shall have the capability to initiate action to upgrade movement priority (greensheet), downgrade movement priority, or change modes for cargo in the aerial port. CMOS shall create an audit trail for each of these actions, capturing the

reason/initiator of the action. For upgrade action, a T_9 trailer TCMD shall be generated and appended to the prime TCMD for the item being upgraded.

1.4.5 Edit consignee DODAAC. The ATSA shall have the capability to modify the consignee DODAACs associated with Navy vessels. Modification of the APOD associated with the DODAAC shall automatically adjust the POD data for all TCMDs with that DODAAC. It shall also notify air freight to change the bay location of cargo in the aerial port.

1.4.6 Onward movement by organic air. The overseas ATSAs shall have the capability to identify outbound surface cargo or inbound air cargo for onward movement by organic air. For cargo scheduled to move by outbound surface, the ATSA action shall modify the mode code and send a notice to surface freight directing the cargo be moved to a new bay location. For cargo scheduled to arrive by air, the ATSA action shall modify the probable mode code and bay location for that individual item.

1.4.7 Validate ATCMD. The overseas ATSAs shall validate ATCMD data received from shippers (CMOS and DAMMS-R) and immediately make this information available to the aerial port. This shall eliminate the CMOS to ADAM III interface developed in CMOS Increment I to pass this data.

1.5 Inbound Surface. The capabilities described in this section shall be added to the Surface Freight capability defined in the Specifications for CMOS Increments I and II.

1.5.1 Truck receipt time. CMOS shall provide the capability to enter the truck arrival time for surface shipments. This shall establish receipt time.

1.5.2 Verify air clearance. At aerial ports, CMOS incheck procedures shall include the capability to verify that ATCMD data has been received for a shipment. This capability shall be available to both the PC workstation and hand-held terminal operator, and support incheck whether or not prepositioned shipment data is available. ATCMDs are required for all shipments except mail, 999, MAC MICAP (Project code 196 and 480), and Code J baggage.

1.5.2.1 No ATCMD on file. If no ATCMD is on file, the inchecker shall be capable of building a prime TCMD for the item with a nonsignificant TAC. This data shall be passed to the ATSA for further completion. Until the TCMD data is complete, the cargo will be stored in the ATSA bay location and the status shall be "INC." After the ATSA has completed the TCMD information, the cargo status shall be changed to "PRO."

1.5.2.2 Notify MACA. At CONUS locations, CMOS shall electronically notify the MAC MACA that no ATCMD data is on hand. If an ATCMD is available at the MAC MACA, it will forward the ATCMD to the notifying CMOS.

1.5.2.3 Nonsignificant TAC. If an ATCMD is on file but has a nonsignificant TAC, the TCMD data shall be passed to the ATSA for validation and assignment of a proper TAC. Until the TCMD data is corrected, the cargo status shall be "INC." After the ATSA has corrected the TCMD information, the cargo status shall be changed to "PRO."

1.5.2.4 Visibility to load planner. Cargo in the "INC" status shall not be visible to the load planner.

1.5.3 Incheck information. CMOS shall provide the capability to validate shipper authenticity, determine probable bay location and mode for onward movement, and reoriginate intransit cargo.

1.5.3.1 Validate shipper authenticity. For advanced shipment information, CMOS shall determine if the consignee DODAAC for each arriving shipment is valid. If not, CMOS shall notify the system manager of the discrepancy and provide the capability to update the CMOS consignee information. If a shipment is found without a valid consignee DODAAC during incheck by either a PC workstation or hand-held terminal, CMOS shall frustrate the shipment (status code "FRE") and notify the ATSA to either modify the shipment consignee DODAAC or update the CMOS consignee information.

1.5.3.2 Probable bay location. During incheck by either a PC workstation or hand-held terminal, CMOS shall display a probable bay location for each item inchecked. A separate bay location shall be maintained for general, MICAP, 999, personal baggage, household goods, and special handling shipments. The inchecker shall be able to accept or override the probable bay location.

1.5.3.3 Probable onward movement mode. During incheck by either a PC workstation or hand-held terminal, CMOS shall display the probable onward movement mode for the shipment. This capability shall support all mode codes in DOD 4500.32-R. The inchecker shall be able to accept or override the probable mode code. Either of these actions shall update the TCMD information for the shipment. For originating cargo, the probable onward movement mode shall appear on the input screen for mode selection in Shipment Planning.

1.5.3.4 Reoriginate cargo. Based on the onward movement mode code, CMOS shall reoriginate intransit cargo in the surface or air freight terminal, as appropriate.

1.5.4 Cargo release procedures. CMOS shall provide the capability to release material to the consignee during the incheck procedure using either the PC workstation or hand-held terminal. The name and organization of the recipient shall be recorded for each piece released. If a signature is required, CMOS shall provide the capability to identify all or selected items on a manifest, and produce a listing for the cargo recipient to sign. Upon entry into CMOS of the recipient's name and organization, all records on this list shall be updated and annotated that a signed transfer document is on file.

1.6 Inbound Air. The capabilities described in this section shall be added to the Air Freight capability defined in the Specifications for CMOS Increments I and II.

1.6.1 Aircraft receipt time. CMOS shall provide the capability to enter the mission arrival time for airlift missions. This shall establish the receipt time.

1.6.2 Manifest incheck procedures. CMOS shall provide the capability to incheck a manifest by line item, pallet, or by accepting all loose cargo or an entire manifest. The cargo shall automatically be frustrated (status code "FRE") when incheck is done and an item is found with no DODAAC/APOD in the consignee file. The system manager or ATSA shall be notified to establish a record for the DODAAC/APOD in the consignee file.

1.6.3 Incheck information. CMOS shall provide the capability to validate shipper authenticity, determine probable bay location and mode for onward movement, and reoriginate intransit cargo.

1.6.3.1 Validate shipper authenticity. For advanced manifest information, CMOS shall determine if the consignee DODAAC for each arriving shipment is valid. If not, CMOS shall notify the system manager of the discrepancy and provide the capability to update the CMOS consignee information. If a shipment is found without a valid consignee DODAAC during incheck by either a PC workstation or hand-held terminal, CMOS shall frustrate the shipment (status code "FRE") and notify the ATSA to either modify the shipment consignee DODAAC or update the CMOS consignee information.

1.6.3.2 Probable bay location. During incheck by either a PC workstation or hand-held terminal, CMOS shall display a probable bay location for each item inchecked. A separate

bay location shall be maintained for general, MICAP, 999, personal baggage, household goods, and special handling shipments. The inchecker shall be able to accept or override the probable bay location.

1.6.3.3 Probable onward movement mode. During incheck by either a PC workstation or hand-held terminal, CMOS shall display the probable onward movement mode for the shipment. This capability shall support all mode codes in DOD 4500.32-R. The inchecker shall be able to accept or override the probable mode code. Either of these actions shall update the TCMD information for the shipment. For originating cargo, the probable onward movement mode shall appear on the input screen for mode selection in Shipment Planning.

1.6.3.4 Reoriginate cargo. Based on the onward movement mode code, CMOS shall reoriginate intransit cargo in the surface or air freight terminal, as appropriate.

1.6.4 Cargo release procedures. CMOS shall provide the capability to release material to the consignee during the incheck procedure using either the PC workstation or hand-held terminal. The name and organization of the recipient shall be recorded for each piece released. If a signature is required, CMOS shall provide the capability to identify all or selected items on a manifest, and produce a listing for the cargo recipient to sign. Upon entry into CMOS of the recipient's name and organization, all records on this list shall be updated and annotated that a signed transfer document is on file.

1.6.5 MAC host update for outbound surface. At aerial ports, CMOS shall automatically prepare and electronically transmit a lifted manifest transaction to the HQ MAC Host when the aerial port releases the cargo for onward surface movement.

1.6.6 Over/short shipments. At aerial port locations, CMOS shall manage over/short shipments for MILSTAMP mode code "F" cargo in the following manner:

1.6.6.1 Over shipments received at intended destination.

1.6.6.1.1 Over shipment on-hand. At the receiving station, an over shipment shall be checked against the over/short register to see if the shipment was identified earlier as a short shipment. If not, the shipment shall be added to the over shipment register. The system manager shall be notified of the over shipment, the identity of the origin station, and the identities of enroute stations. The system manager shall

be able to select stations that could have been responsible for the overage. CMOS shall generate an over shipment message to each of these stations.

1.6.6.1.2 Over shipment message response. Upon receipt of an over shipment message, the origin and enroute station CMOS shall determine automatically if the shipment was ever at that station.

1.6.6.1.2.1 Over shipment not handled. If no record exists, the origin or enroute station CMOS shall electronically advise the requesting CMOS that the shipment was not handled.

1.6.6.1.2.2 Over shipment handled; onward movement unrecorded. If a record exists with no outbound mission data, the origin or enroute station CMOS shall automatically generate a "dummy" manifest using the mission number from the over shipment message and the next available manifest number. This "dummy" manifest shall be automatically sent to the MAC Host and destination station. At the destination, it shall clear the item from the over/short shipment register.

1.6.6.1.2.3 Over shipment handled; onward movement recorded. If a record exists with outbound mission data, the origin or enroute station CMOS shall automatically send a message containing the outbound mission information to the CMOS generating the over shipment message. Upon receipt, this message shall cause the over shipment to be flagged pending arrival of the mission.

1.6.6.2 Over shipments received at other than the intended destination.

1.6.6.2.1 Over shipment on-hand. At the receiving station, an over shipment shall be checked against the over/short register to see if the shipment was identified earlier as a short shipment. If not, the shipment shall be added to the over shipment register. The system manager shall be notified of the over shipment, the identity of the origin station, and the identities of enroute stations. The system manager shall be able to select stations that could have been responsible for the overage. CMOS shall generate an over shipment message to each of these stations.

1.6.6.2.2 Over shipment message response. Upon receipt of an over shipment message, the origin and enroute origin station CMOS shall determine automatically if the shipment was ever at that station.

1.6.6.2.2.1 Over shipment not handled. If no record exists, the origin or enroute station CMOS shall electronically advise the requesting CMOS that the shipment was not handled.

1.6.6.2.2.2 Over shipment handled; onward movement unrecorded. If a record exists with no outbound mission data, the origin or enroute station CMOS shall automatically generate a "dummy" manifest using the mission number from the over shipment message and the next available manifest number. This "dummy" manifest shall be automatically sent to the MAC Host and destination station. At the destination, it shall clear the item from the over/short shipment register and reoriginate the shipment for onward movement.

1.6.6.2.2.3 Over shipment handled; onward movement recorded. If a record exists with outbound mission data, the origin or enroute station CMOS shall automatically send a message containing the outbound mission information to the CMOS generating the over shipment message. Upon receipt, this message shall cause the TAC for the over shipped item to be modified ("S" in the 2nd position) and the item to be reoriginated for shipment to the intended destination. Upon arrival at the intended destination, the TAC shall be returned to its original (premodification) composition.

1.6.6.3 Short shipments.

1.6.6.3.1 Short shipment record on-hand without cargo. At the intended destination, a short shipment shall be checked against the over/short register to see if the shipment was identified earlier as an over shipment. If not, the shipment shall be added to the short shipment register. The system manager shall be notified of the short shipment, the identity of the origin station, and the identities of enroute stations. The system manager shall be able to select stations that could have been responsible for the shortage. CMOS shall generate a short shipment message to each of these stations.

1.6.6.3.2 Short shipment message response. Upon receipt of an short shipment message, the origin and enroute station CMOS shall determine automatically if the shipment was ever at that station.

1.6.6.3.2.1 Short shipment not handled. If no record exists, the origin or enroute station CMOS shall electronically advise the requesting CMOS that the shipment was not handled.

1.6.6.3.2.2 Short shipment located; on-hand. If the cargo is at a station, that station shall reoriginate the shipment and modify the TAC ("S" in the 2nd position) for the item. In addition, it shall electronically notify the CMOS generating the short shipment message that it has the cargo. Upon receipt, this message shall cause the short shipment to

be flagged pending receipt of the cargo. Upon arrival of the cargo at the intended destination, the TAC shall be returned to its original (pre-modification) composition. For shipments not received within 72 hours of being flagged, CMOS shall automatically transmit a follow-up message to the station that reported the cargo on hand.

1.6.6.3.2.3 Short shipment handled; onward movement recorded. If the cargo has been shipped, the origin or enroute station CMOS shall send a message with mission information to the CMOS generating the short shipment message. Upon receipt, this message shall cause the short shipment record to be flagged pending arrival of the mission. If the cargo is not received within manifest ETA plus 24 hours, CMOS shall automatically transmit a follow-up message to the station that reported the cargo on hand. If an abort manifest transaction is received for the mission on which the previously shorted piece was scheduled to arrive, CMOS shall retransmit a short shipment message to the station which reported the mission information.

1.6.6.4 Unresolved short shipments. If the short shipment is not resolved in 21 days CMOS shall notify the system manager to manually prepare an SF 361. CMOS shall provide a history of system messages (outbound and inbound) associated with locating the short shipment. CMOS shall not remove items from the short shipment register unless the short shipment has been resolved or SF 361 data is entered.

1.6.6.5 System manager review. CMOS shall provide the system manager the capability to review the over/short shipment register, the status of items in the register, and the inbound over/short messages received with associated responses.

1.7 Special Handling. At an aerial port, the special handling section has unique requirements because it is responsible for the incheck, storage, and onward movement of all cargo having selected air commodity and special handling codes and MAC MICAP. CMOS shall provide special handling the capability to perform all the functions of inbound air and surface freight and the incheck, palletization/containerization, inventory, and TCMD modification capabilities of outbound air and surface freight. This capability shall include only cargo with the selected air commodity and special handling codes and MAC MICAP.

1.8 Outbound Air. The capabilities described in this section shall be added to the Air Freight capability defined in the Specifications for CMOS Increments I and II.

1.8.1 Identify palletization requirements. CMOS shall provide the load planner with the capability to identify cargo requiring palletization by air freight.

1.8.2 Pallet buildup. CMOS shall provide the capability to build a pallet. This shall be done in three stages: creation of a pallet header shell, adding of items to the pallet, and capping the pallet. When the pallet is capped, CMOS shall compute the document weight for the pallet. No record changes can be accomplished on a capped pallet. The operator shall be able to assign a grid location for the 'capped' pallet.

1.8.3 Pallet weight verification. CMOS shall provide the capability to enter the actual weight of a capped pallet, and automatically compare the scale weight with the document weight. If the differential between the weights is out of the range identified in MACR 76-1, the system shall change the status of the pallet to not movement ready, notify the PC operator of the status change, and provide the capability to review the pallet contents.

1.8.4 Load planning schematic. CMOS shall support load planning by providing the capability to produce a "pull sheet" and "load sequence" or a load planning schematic for a mission. After approval by the load planner, the schematic shall be made available to air freight.

1.8.5 Management Action Indicator (MAI). CMOS shall use MAIs to display cargo backlogs and load planning lists. MAIs shall be established and maintained by outbound air freight. MAIs identify the intransit destination for cargo moving to selected final destinations via selected channels. (e.g. Dover AFB would have an MAI (Travis AFB) for all cargo moving to consignees in the far east. When the load planner looked at his cargo backlog for Travis, he would see not only cargo with Travis as the ultimate consignee, but any cargo having to go to Travis for onward movement to its ultimate destination.)

1.8.6 Multiple manifests. CMOS shall provide the capability to prepare multiple air manifests for the same mission.

1.9 Outbound Surface. The capabilities described in this section shall be added to the Surface Freight capability defined in the Specifications for CMOS Increments I and II.

1.9.1 Bay location changes for organic military air. At the aerial port, CMOS shall provide the capability to notify the outbound surface freight operator that the ATSA has selected

surface outbound cargo for onward movement via organic military air. This notification shall direct the cargo be moved to a new bay location.

1.9.2 Multiple military truck destinations. CMOS shall provide the capability to manifest trucks to multiple destinations. Manifest reference numbers shall be assigned for each destination.

1.10 Miscellaneous Reports. HQ MAC shall identify pre-formatted reports and standard queries that shall be required.